



HI-Q

THE LAKEHEAD AMATEUR RADIO CLUB JOURNAL

LARC- Suite 184, 1100C Memorial Ave., Thunder Bay, Ontario, Canada, P7B 4A3

VE3FW - LARC call sign - honours the memory of the Founding President, P. J. "Pat" O'Shea

LARC SENATE

Keith Fiske	VE3JQ
Ray Forslund	VE3EDZ
Ray Greer	VE3CH
Dave Kimpton	VE3AVS
Bill Klemacki	VE3AJ
Bill Roberts	VE3ARN

LARC EXECUTIVE

President:	Bob Hansen	VE3RVA 767-6924
Vice-Pres:	Mark Vaillant	VA3MVR 935-2205
Secretary:	Judy Artist	VA3EAP 345-2218
Treasurer:	Jan Sokoloski	VA3JRS 344-3222
Directors:	Ed Baumann	VE3SNW 622-1216
	Andy Malcolm	VE3INI 345-1858
	Maureen Meredith	VA3MOB 344-7868
	Pat Pugh	VA3PP 345-8562
Past Pres:	Ian Mellis	VA3RIM 577-1628

LARC OPEN ACCESS REPEATERS

VE3YQT	MOUNT BALDY	147.06	(-600)	FP
VE3TBR	ST. JOSEPH'S	146.850	(-600)	FP
VE3BGA	HILLCREST H.S.	147.390	(+600)	
VE3TBB	UPSALA ONT.	145.470	(-600)	FP
(linked to VE3YQT)				

PREZ SEZ.....

As your president I hope that each and every one of the members and their families had a wonderful Christmas and New Year.

This coming year will see a change in meeting rooms starting with the first meeting on January 11/2001. The room will be Room 191 in the south end of the McIntyre Building. Ed VE3SNW will also be using it for his amateur class, starting on January 18 at 1930 hours. Please come out and lend your support to Ed with this important endeavour.

Tickets are now available for the LARC Annual Dinner meeting on **Saturday February 10** at the Slovak Legion. The cost of the ticket is \$22 per person and tickets can be purchased from Bob VE3RVA (767-6924) or Jan VA3JRS, Judy VA3EAP or Mark VA3MVR. **Tickets must be prepaid – there will be no unpaid tickets at the door!!!**

By the next meeting I hope to have some sort of a club meeting activity list out for the remaining meetings in the year 2001. The January 11 meeting will be an important one – I have a few plans

and ideas to discuss with the members. See you there
Your President Bob **VE3RVA**

J.O.T.A 2000

Grey Wolf Scout Camp
Thunder Bay, Ontario
15th Fort William Scout Troop

On the weekend of the 43rd Jamboree On The Air, 24 Scouts and their leaders from the 15th Fort William Scout Troop took part in this yearly event. The J.O.T.A campout took place at the Grey Wolf Scout Camp just south of the City of Thunder Bay, Ontario. Many of the group went out to the camp and set up on Friday night, and spent the weekend out at the camp until Sunday afternoon.

Various events took place for the groups, some of which was, hiking, community service, cooking, axe and fire safety, knife safety and of course amateur radio.

The leaders cooked up a special turkey dinner for the group for Saturday night, and a splendid meal was enjoyed by all.

On Saturday around 10 a.m. the amateur radio display was ready to go. We had HF and 2 metres on hand for the event. A dipole was set up for HF, and the bands proved to be in our favour this year as the group had the opportunity to enjoy many contacts with various people around the United States, Canada, and a contact to Puerto Rico.

As each group came into the room for the display, I explained to them about the history of amateur radio, and it's vital role that it plays in Public Service and Safety. I also explained the various modes of operation to them, and how a contact is initiated and made. It was also explained to the groups the use of morse code, and how computers now play a part in the world of digital communications.

Some of the contacts that the group was involved with were. **VE2LGJ** in Quebec, **VE4SVV** in Birds

Hill Provincial Park, Manitoba, **K0ASH** in Nebraska, and of course **KP4AO** in Puerto Rico. Some of the topics discussed on the radio were hobbies, family, school, pets, and badges.

I would like to thank the gang from the 15th Fort William Scout Troop, their leaders, and Scouts Canada for making J.O.T.A one of the yearly activities that I get involved in a success. I look forward to next year, and hope to meet many of you on the air.

73

Fred Lesnick
VE3FAL
Thunder Bay, Ontario

(Tks Fred for excellent report.....Ed.)

RAC On-air events.....

Dec. 26 – DARC Christmas Contest

“ - 2000 6m Activity Contest

Dec. 30 – RAC Winter Contest (see RAC Web site)

“ - Stew Perry Top Band Challenge

Dec. 31 – ARRL Straight Key night (VE3FAL not)

Jan. 1, 2001 – AGB NYSB Contest

Jan.1 – 2 – Second CCCC Millenium Contest

Other RAC News.....

Robert (Bob) McKenzie, **VE3SJQ**, was recently re-elected Section Manager for a two-year term that will begin on March 21, 2001, in the Ontario Section. Rob ran unopposed, eliminating the need for

a balloted election.

Silent Key.....

George Lord, ex-**VE3BYG**, passed away on December 20th. During his years as a science teacher at Selkirk High School, George was active on the HF bands and encouraged young prospective hams.

(This is usually a quiet time of year for editing newsletters, so I am taking this opportunity to insert in its entirety a lengthy but fascinating communication relayed to me by Jim **VE3UA**. I have not edited out any spelling or other errors.....Ed.)

By Miles Mann WF1F, MAREX-NA (Manned Amateur Radio Experiment, North American Division)

Space Station Alpha on 2-meters:

Yesterday the International space Station Alpha began testing the crew's new Amateur Radio station on the 2-meter band. The Amateur Radio station is used by the ISS crews during their free time to provide the crews with an extra way to entertain them selves and to talk to school children during pre-arranged school schedules. The Russians have been using Amateur radio on Mir since 1988 and have found it to be very beneficial for crews on long duration missions. The Mir Amateur radio was even used as a emergency communications link on many occasions, and I have even heard rumors the amateur radio link on the NASA Shuttle was used to inform the Shuttle crew of an antenna switch problem which disconnected the Shuttle from the normal voice channels.

The testing of the Amateur radio station initially took place while ISS was over Russia during two prearranged test orbits.

1 pass 6:17-6:25 UTC (9:17-9:25 MSK)
2 pass 8:53-9:03 UTC

The Amateur Radio station on ISS consists of a commercial grade hand held radio called a HT. The radio operates in the ITU satellite portion of the

amateur radio 2-meter band 144.000 - 146.000. The exact frequencies used during the test are of course a closely guarded secret, however when testing is completed the radio will be placed on one of the published public channels. The ISS Amateur Radio station is not currently open to the public at this time.

Russian view of the test:

The club station **R3K** at RSA Energia in Korolev Russia (near Moscow) was equipped with two different 2-meter radio stations to simulate typical amateur radio home stations. One station is what we call an Oscar class station and the other a typical home station.

Station #1:

Transceiver, Oscar Class 180 watts RF FM. Antenna 20 element Circular polarized, gain approximately 9+ dBd, Approximate ERP 1440 watts

Station #2:

Transceiver, Mobile Class 50 watts RF FM. Antenna, Vertical collinear 7 meters in length, gain approx 6 dBd, Approximate ERP 200 watts.

The first pass test used the big station #1. This orbit was a low orbit pass, only getting 28 degrees above the horizon, and its closest approach to the station was just over 700 kilometers. Cosmonaut Musa **U2MIR** was to be the first person in the club station to make the contact, however Musa was a little late for the schedule. So the task fell upon Sergej Samburov **RV3DR** to make the first contact with ISS via Amateur Radio. (Sergej Samburov is also the manager of the club station at RSA and the club station on ISS.) The initial contact took place on schedule and the microphone was quickly passed around the room

to the other present, including Vladimior Zagainov, **UA3DKR** and Eugene Labutin, **RA3APR**. The audio and signal quality were excellent, we use the term DFQ, Darn Full Quieting. The contact lasted 10 minutes as the space station traveled from horizon to horizon. A strong signal was maintained during the whole 2-way conversation.

The second test orbit used the lower power station with a smaller antenna. This orbit was also a low orbit pass, only getting 28 degrees above the horizon, and its closest approach to the station was just over 700 kilometers. On occasions you may get an orbit directly over your house and the station will be only 400 kilometers away. The signal quality was noticeably lower and there was considerable noise on the signal during the beginnings and end of the 10 communications pass. The difference in signal strength was primarily because of the lower gain antenna on the club station. The bigger the antenna, the more signal you can pull in. The ISS crew and club station member enjoyed another 10 minute conversation and declared the initial voice testing of the Amateur Radio station a success. Cosmonaut Mikhail Turn was present during the testing. It will be Mikhail job to install the new Amateur Radio antenna on ISS during his expedition 3 ISS mission in 2001.

After the test Sambrov and I discuss the signal quality and compared it to the Russian Space station Mir. The Mir station had a slightly better antenna and it had the ability to select different transmitter power levels with the Kenwood TM-733 settings of 5,10 and 50 watts output. To help conserve power, the Mir station was usually kept on the 5 watt setting. The signal quality results of this ISS test were similar to signal quality reports from Mir, when Mir was using the 5-watt setting. The ISS transceiver has an estimated ERP transmitter value of 1.5 watts. These results are still preliminary. However, it looks like stations with a zero gain antenna will be able to hear ISS and will be able to establish 2-way connections on good close orbit passes. Serge then said, there are plans to upgrade the antenna system on ISS during

expedition #3 mission, with an antenna system specifically designed for the amateur radio bands. There are also tentative plans to upgrade the transceiver on ISS to a 50-watt class transceiver (pending many approvals).

For more information on this mission please check the NASA web pages.

<http://spaceflight.nasa.gov/index-n.html>

ISS ALPHA visibility:

The NASA web page has a program, which will calculate the potential for being able to visually see the ISS ALPHA as it passes over your city. They have a listings for many different cities and countries.

<http://spaceflight.nasa.gov/realdata/sightings/>

International Space Station Alpha Amateur Radio Call signs:

The ISS ALPHA is keeping the international flair by hosting several amateur radio call signs from around the world, and the list keeps growing. So far the ISS ALPHA has 4 calls signs from three different countries, Russia, USA and Germany. Also each of the crewmembers of expedition 1 has their own personal Amateur Radio call sign. One NASA engineer sent a message to the ISS crew saying, "You guys can use whatever [Amateur Radio] call sign you want".

William Shepherd, Expedition commander, **KD5GSL**
Yuri Gidzenko, Soyuz commander (pending)

Sergei Krikalev, flight engineer, **U5MIR**

Russian Module call sign: **RZ3DZR**

Other club call signs ISS used: **RS0ISS**, **NA1SS** and **DL0ISS ALPHA**

Suggested receiving station:

Casual listening for ISS ALPHA and Mir 2-meter vertical or scanner antenna (0 dBd or better) Police scanner or amateur radio with the ability to receive in the 144 - 146 mc or MHz range, FM mode. Antenna

cable should be a low loss RG-8 style cable less than 100 feet long (RG-213 best choice). You will not need to mount the antenna very high, just try to get above the roof ridgeline. And of course you will need

to find / buy a satellite tracking program. I recommend the InstantTrack 1.5. It's a simple easy to use program, which can be purchased from Amsat.
<http://www.amsat.org/amsat/instanttrack/>

ISS ALPHA frequencies:

The Amateur Radio frequencies for ISS ALPHA have been posted.

Worldwide downlink for voice and packet: 145.800

Worldwide packet uplink: 145.990

Region 1 voice uplink: 145.200

Region 2 & 3 voice uplink: 144.490

You will need to dig out the manual for your radio and program in the following frequency combinations.

Note that some of the older FM mobile and Walkie-talkie HT style radios over 15 years old may have some difficulty in saving these combinations into memory. The channels listed below will help you compensate for the speed of the space station, called Doppler. If the smallest channel step your radio supports is 5k, then only program in channels 2, 5 and 8. If your radio supports the smaller 2.5k channel step, then program in all channels listed. After you have determined your smallest channel step supported by your radio, then program in the channels. You can either use the procedures for storing ODD-Splits or you can reprogram your repeater off set for each of the channels and then save the new combination in a new memory location. This channel procedure has been successfully used on the Mir Amateur Radio program for years and is the choice of usage for school schedules (you do not want to fiddle with VFO's during a 10-minute pass). I also recommend you program in all channels, no matter what part of the world you live in. The World Map ISS ALPHA location display used by the ISS ALPHA crew is not located next to the AmateurRadio station.

Voice operations Region 2 & 3 (North and South America and Pacific)

Chan	Receive	Transmit	Offset (Meg)
1	145.802.5	144.487.5	-1.315
2	145.800.0	144.490.0	-1.310
3	145.798.5	144.492.5	-1.306

Packet operations Regions 1, 2 & 3 (Europe, North and South America and Pacific)

Chan	Receive	Transmit	Offset (Meg)
4	145.802.5	145.987.5	+0.185
5	145.800.0	145.990.0	+0.190
6	145.798.5	145.992.5	+0.194

Voice operations Region 1 (Europe)

Chan	Receive	Transmit	Offset (Meg)
7	145.802.5	145.197.5	-0.605
8	145.800.0	145.200.0	-0.600
9	145.798.5	145.202.5	-0.596

Usage Example:

Lets assume ISS ALPHA is approaching for a good 10 minute over head pass, running Packet. When ISS ALPHA comes over the horizon the Doppler frequency error will initially be 3.5k plus 145.990 = 145.993.5. This means the frequency ISS ALPHA will appear to be transmitting on is 145.993.5. Set your radio to channel #4 for the first 3 minutes of the pass. Then for the next 3 minutes use channel #5 and for the last three minutes use channel #6. Follow the same procedure for Voice operations. Since we are using the Mode FM, we do not have to have our Transmit and receive frequency exactly on frequency. We can be off frequency 1-2khz and still get reliable Voice and Data. The MAREX-NA team has been using this procedure for 10 years with excellent results.

QSL card:

A QSL card is a post card, which you can request to confirm you made a two-way or heard the crew on the

Amateur Radio band. The QSL procedure for ISS ALPHA is under development, please check the

AIRSS web pages for the latest updates and QSL procedures for ISS ALPHA.

[http://arISS Alpha.gsfc.nasa.gov/](http://arISS.Alpha.gsfc.nasa.gov/)

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Images received from the MAREX-NA SSTV system on the Russian Space Station Mir are considered public domain and may be freely distributed, without prior permission.

DOSVIDANIYA Miles **WF1F**

Via the sarex mailing list at AMSAT.ORG courtesy of AMSAT-NA.

To unsubscribe, send "unsubscribe sarex" to Majorjor@amsat.org

You know you are a QRP'er, when:

You can rattle off the mAH ratings for all popular dry cell batteries off the top of your head (great to know at Christmas time while standing in line at the stores).

It is a constant habit of yours to check that all the unused lights in your house are turned off.

The kids can't make toast because you are busy analyzing the toaster to see how it might load up on 40M.

You view buildings, structures, hills and whatever thinking "I wonder if it would be possible to operate portable from there?"

A dead VCR looks like a multi-band all-mode DDS VFO QRP transceiver with memories. Lots of memories.

Your family eats a lot of tuna fish whether they want to or not, OR

Your family is finally sick and tired of Altoids.

Friends have learned NOT to ask technical questions of you anymore.

Your wife/kids/dog found that 5 watt dummy load you've been searching for for so long between the cushions on the couch.

jWhen your little daughter walks barefoot through the house and screams, it means another part found for the latest project.

Your favorite radio not only adorns the kitchen table, but is also on the front of your shirt.

I'm sure there are more, let's hear them! Enjoy es 72

Howard Kraus, **K2UD**

Tks Fred **VE3FAL** for QSP.....Ed.)

Web-sites.....

<www.home.cfl.rr.com/happysurfer/hamlynx/hamhomeb.htm>electronics homebrew supplies page for hams (Tks Wayne **VA3WRL**)

www.qsl.net/w0gkp/ (tried this site only once and I could not get in but it may have been me.....anyhow thanks to Al **VA3AMY** ...Ed.)

Erratum and Addendum LARC Membership list.....

Correction...change **VA2XRM** to **VA3XRM** (Sorry about that Rod...welcome back to Ontario....Ed.)

Add VA3LU Terry Stewardson

**Minutes of Meeting of the Lakehead Amateur Radio Club
held at Boston Pizza, West Arthur Street, Thunder
Bay, Ontario on December 14, 2000**

The meeting was called to order at 7:30 pm by the President Bob Hansen, VE3RVA with 24 members and guests in attendance.

Minutes of the Meeting held on November 9, 2000

The minutes of the meeting held on November 9, 2000 were published in detail in the December edition of "HI-Q" and distributed to all members.

Motion: moved by VA3JRS, Jan Sokoloski and seconded by VE3GTX, John Watson that the minutes be accepted as distributed. **Carried.**

Correspondence: none

Treasurer's Report: VA3JRS, Jan Sokoloski

Balance as of October 31, 2000		\$ 3,192.59	
Income:	Membership fees	\$ 205.00	
	50/50 Draw	<u>18.00</u>	223.00
Expenses:	Telephone	\$ 40.37	
	Con College	50.00	
	Repeater Maint.	50.00	
	ARES	<u>9.20</u>	149.57
Balance as of November 30, 2000		\$ 3,266.02	

Motion: moved by VA3JRS, Jan Sokoloski and seconded by VE3AVS, Dave Kimpton that the Treasurer's report be accepted. **Carried.**

Committee Reports:

Equipment: VE3INI, Andy Malcolm reported that they are working on the UHF side of VE3TBR.

ARES: VA3GOT, Randy Gottfred reported that due to problems with the laminating machine at McKellar Hospital, the new ARES ID cards are not ready yet.

Public Service: VA3MOB, Maureen Meredith reported that the next public service event is the Sibley Ski Tour, the first Saturday in March.

Old Business:

Annual Dinner: VE3RVA, Bob Hansen reported that tickets are now available for the annual dinner to be held Saturday, February 10, 2001. Tickets are \$ 22.00 each.

New Business:

Team Diabetes: VE3GTX, John Watson made a presentation on behalf of Team Diabetes, a fund raising project of the Diabetes Association.

Meeting Room: VE3RVA, Bob Hansen reported that we now have a different meeting room at Confederation College. The new room is 191 in the McIntyre Building. This room is larger, has windows and a door to the outside which will be beneficial for the ham classes.

Antenna Season: due to the fact that it is cold outside and there is now some of that white stuff on the ground, VE3AJ, Bill Klemacki officially declared antenna season opened in his usual way, with a blast of his trusty horn.

50/50 Draw: winner of the 50/50 draw was VA3MVR, Mark Vaillant.

Adjournment: moved by VA3MOB, Maureen Meredith that the meeting be adjourned.

Thisn' that.....

Please..... avoid using 146.560 MHz as a simplex frequency. Your transmission may trigger the Nipigon repeater on the same frequency.

Down Memory Lane.....

Is not available this month due to space constraints. It will return next month. Your editor (**VE3AVS**) thanks all the many contributors over the past year. It does not take a lot of work (especially with Internet access) to find something in cyberspace that will be of interest to our many hobbyists.

The very best for happiness and health in 2001. Please remember the **LARC Family Ski Night on Thursday February 15th at Kamview Nordic Center.** Unplug your mouse and lose your TV remote for an evening of fun and fresh air!!!

NOTICE OF LARC MEETING

THURSDAY JANUARY 11TH

CONFEDERATION COLLEGE

ROOM 191 (NOTE CHANGE!)

1930 HOURS

FOR SALE

Yaesu FT890 100w 160-10m HF c/w built-in tuner, ssb filter, used very little \$1000

Pyramid gold ser. 35 amp power supply

Used very little \$200

Prefer to sell both..... Bill **VA3AY**

807-683-3190

FOR SALE

ADI AT-600 DUAL BANDER H/T modified

Asking price \$300 Phone Manuel **VE3MPT**

475-5686

NOTICE OF LARC ANNUAL DINNER

SATURDAY FEBRUARY 10TH

SLOVAK LEGION

SYMPOSIUM 1800

DINNER 1845

**TICKETS @ \$22 FROM VE3RVA, VA3EAP
VA3MVR or VA3JRS (Advance sales only!)**